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DEPARTMENT OF FOOD SCIENCE

16 August 2000

Documents Management Branch
Docket No. 98F-0165 HFA=305
Food and Drug Administration
5630 Fisher Lane, Room 1061
Rockville, MD 20852

Re: Irradiation in the Production and Handling of Eggs

Gentlemen:

I am an advocate for food irradiation when appropriately applied. Research reported in 1957 clearly demonstrated that the use of beta ray irradiation of shell eggs was not an appropriate application. This work has been confirmed by Canadian researchers using gamma rays.

When a shell egg is irradiated with even low levels of beta rays the structure of the albumen is destroyed so that a grade A egg is not possible under present grading standards of USDA. In addition to the loss of structure the high sulfur content of the yolk of an egg leads to off flavors.

The incidence of *Salmonella enteritidis* has been estimated to be one egg in 20,000 eggs. To eliminate this low risk two patents have recently been issued by the US Patent Office to Davidson (No.5,843,505 on Dec. 1, 1998) and to Vandepopuliere and Cotterill (No. 6,004,603 on Dec 21, 1999) where heat is used to pasteurize the contents of shell eggs. The heat pasteurization procedures do not impair the appearance, functional properties, or flavor of eggs. With these methods for assuring a totally safe egg supply why would a much more expensive irradiation process be used. It is not necessary and would require major changes in the currently utilized grading system.

Reference: Parsons, R. D. and Stadelman, W. J. 1957 Ionizing irradiation of Fresh Shell Eggs. Poultry Science 36:319-322.

Sincerely,

W. J. Stadelman

W. J. Stadelman
Professor emeritus

98F-0165

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